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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,835	10/12/2005	Bernard John Cooper	70403-0021	3756

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EXAMINER	
ZHU, WEIPING	

ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
01/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,835	COOPER ET AL.	
	Examiner	Art Unit	
	WEIPING ZHU	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-11* is/are pending in the application.

4a) Of the above claim(s) *8-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-7 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 24, 2008 has been entered.

Status of Claims

2. Claims 1, 3-7 and 11 are currently under examination wherein claim 1 has been amended and claim 11 has been newly added in applicant's amendment filed on November 24, 2008. The applicant has protested in the amendment filed on November 24, 2008 the restriction requirement, which was made final in the final rejection dated July 3rd, 2008. The applicant is advised herein to file a petition directly to the Office of the TC 1700 director of the USPTO in order to revert the restriction requirement.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamson et al. (US 4,355,017) in view of Snodgrass et al. (US 4,444,740).

With respect to claim 1, Gamson et al. ('017) discloses a method of treating a spent potliner after use in an aluminum smelting process comprising (col. 2, lines 10-47): crushing and classifying the spent potliner; placing the crushed and classified spent potliner in a furnace at a temperature greater than 450°C; heating the spent potliner to a temperature greater than 450°C; and mixing the heated spent potliner with water to produce reaction gases and residue. The function of heating the spent potliner to a temperature greater than 450°C in the process of Gamson et al. ('017) would be the same as the function of heating the spent potliner to a temperature greater than 450°C as claimed in the instant claim 1 in terms of oxidizing the spent potliner with minimal volatilization of fluorides.

Gamson et al. ('017) does not disclose burning the reaction gases as claimed. However, it has been well held where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical process, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977), MPEP 2112.01 [R-3] I. In the instant case, the claimed and Gamson et al. ('017)'s spent potliner residues are identical or substantially identical in structure or composition and are produced by identical or substantially identical processes. A prima facie case of obviousness is established. Burning of the reaction gases would be expected in the reaction of Gamson et al. ('017) as in the claimed reaction.

Gamson et al. ('017) does not disclose mixing the residue with water as claimed. Snodgrass et al. ('740) discloses that the ash residue was mixed with water (col. 3, lines

28-52 and Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to mix the ash residue of Gamson et al. ('017) with water as disclosed by Snodgrass et al. ('740) in order to leach the ash residue and remove any residual fluoride from the ash residue as disclosed by Snodgrass et al. ('740) (col. 3, lines 28-52 and Figure 1).

With claims 3 and 4, they are apparatus limitations in a method claim. Gamson et al. ('017) discloses that the reaction may be conducted in suitable reactors such as a multiple stage fluidized bed, a multi-level furnace reactor, or a closed, refractory lined, furnace (col. 2, lines 20-22), which reads on the claim limitations.

With respect to claim 5, Gamson et al. ('017) discloses the method comprises directing air flow into the furnace (col. 4, lines 47-60).

With respect to claims 1, 6 and 7, Snodgrass et al. ('740) discloses exposing the mixture of the ash residue and water to ambient conditions between 20^{o}C and 120^{o}C for a period of from about 10 minutes to 3 hours to cure the residue (col. 3, lines 28-43). The lowest temperature of Snodgrass et al. ('740) is the same as the highest temperature as claimed in the instant claim 6 and the exposing time period of Snodgrass et al. ('740) is within the time range as claimed in the instant claims 1 and 7. A prima facie case of obviousness exists. See MPEP 2144.05 I. Furthermore, it is well held that discovering an optimum value of a result-effective variable involves only routine skill in the art. In re Boesch, 617, F.2d 272, 205 USPQ 215 (CCPA 1980). In the instant case, the temperature and the exposing time period are result-effective variables, because they would directly affect the final results of the process as disclosed

by Snodgrass et al. ('740) (col. 3, lines 28-43). See MPEP 2144.05 II. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the temperature and the exposing time period of Snodgrass et al. ('740) in order to achieve desired results. Snodgrass et al. ('740) does not disclose exposing the mixture in a pile in a ventilated location as claimed in the instant claims 1 and 6 and mixing the pile on a daily basis as claimed in the instant claim 7. However, it would have been obvious to one of ordinary skill in the art that these measures would have been taken in the process of Snodgrass et al. ('740) as desired, because these measures would obviously help improve the efficiency of the process.

With respect to claim 11, Snodgrass et al. ('740) discloses blending the treated ash residue with other chemicals and minerals to provide mineral products (col. 2, lines 35-58 and Figure 1).

Response to Arguments

4. The applicant's arguments filed on November 24, 2008 have been fully considered but they are not persuasive.

First, the applicant argues that unlike the cited references, the instant method as claimed does not remove fluorides during the treatment process because the end result is a useful mineral product that does not end up in a landfill. In response, the examiner notes that as discussed above, the method of treating a spent potliner after use in an aluminum smelting process of Gamson et al. ('017) in view of Snodgrass et al. ('740) meets all the claim limitations of the method of the instant invention as claimed. Therefore, the remaining contents of fluorine and carbon in the residual of Gamson et

al. ('017) in view of Snodgrass et al. ('740) would be substantially identical to those of the instant invention.

Second, the applicant argues that neither of the cited references discloses nor suggests the claim limitation of burning the reaction gases in the instant claim 1. In response, see the reason for the rejection of the claim limitation in the paragraph 3 above.

Third, the applicant argues that neither of the cited references discloses nor suggests the curing step as claimed. In response, see the reason for the rejection of the claimed curing step in the paragraph 3 above.

Fourth, the applicant argues that the combination of Gamson et al. ('017) and Snodgrass et al. ('740) would actually teach away from a process that does not remove fluorides because both references teach extracting the fluorides. In response, see the response to applicant's first argument above. It is also well held that mere disclosure of alternative designs does not teach away. See In re Fulton, 391 F. 3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004). The combination of Gamson et al. ('017) and Snodgrass et al. ('740) with a proper motivation as stated in the paragraph 3 above renders the claimed method obvious to one of ordinary skill in the art.

Conclusions

5. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

WZ

1/4/2009

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/531,835	COOPER ET AL.	
	Examiner	Art Unit	
	WEIPING ZHU	1793	